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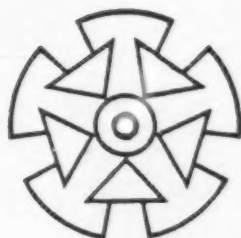
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ABSTRACT

Designed to develop, over a 5-year period, a model K-6 bilingual program, the project provided early childhood bilingual education intervention to facilitate the learning of English and Spanish simultaneously in an effort to effectively develop the child's cognitive, affective and psychomotor skills. Innovative and tested instructional bilingual-bicultural materials were implemented to assist children with limited English speaking ability from low income families. Located in the Clovis, New Mexico municipal schools, the project was divided into two programs: kindergarten and grades 1-4. The primary focus of the 1977-78 external evaluation was to measure the project's impact on student achievement in language development, reading, and math skills. Assessed were bilingual language development, school readiness, and basic skills in the kindergarten and language development, reading, and math skills in grades 1-4. The kindergarten evaluation design consisted of a pre- and posttest one group design and a special regression model. The Grades 1-4 Program was evaluated with a two group (treatment and control) pre-test-posttest covariance model. Results indicated that the kindergarten students made significant gains in school readiness and basic skills but not in language development; and, there was no significant difference between the treatment (bilingual) and control groups in terms of English and Spanish language development and developmental skills in reading and math, except in the area of reading at the second grade level, with the difference in favor of the control group. (Author/NQ)

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END-OF-YEAR EVALUATION REPORT
1977-78
THIRD-YEAR EVALUATION STUDY

A SCHOOL AND HOME-BASED BILINGUAL EDUCATION MODEL
(KINDERGARTEN - GRADE 4)

Funded by:

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June, 1978



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DOCUMENT RESUME

TITLE: A School and Home-based Bilingual Education Model: End-of-Year Evaluation Report, 1977-78 (Third-Year Evaluation Study).

INSTITUTION: Askins, (B.E.) and Associates, Lubbock, Texas; Clovis Public Schools, New Mexico; and Texas Tech University

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ABSTRACT: This report is the results of the third-year external evaluation of a project designed to develop, over a 5-year period, a model bilingual program from kindergarten through grade 6. Innovative and tested instructional bilingual-bicultural materials (language, perceptual and cognitive) are being implemented in an attempt to assist children with limited English speaking ability from low income families. The project, located in the municipal schools of Clovis, New Mexico, is divided into two programs: Kindergarten and Grades 1-4.

The primary focus of the 1977-78 evaluation was to measure the impact of the project as concerns student achievement (language development, reading, and math skills). The kindergarten evaluation assessed bilingual language development, school readiness, and basic skills. The G1-4 program evaluation assessed language development, reading, and math skills. The evaluation design of the Kindergarten Program consisted of a pre and posttest one group design and a special regression model. The Grades 1-4 Program was evaluated with a two group (treatment and control) pretest-posttest covariance model.

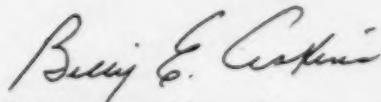
As concerns the Kindergarten Program, students made significant gains in school readiness and basic skills but not in the area of language development. As concerns the Grades 1-4 Program, the comparison between the treatment (bilingual) and control groups (in terms of language development in English and Spanish and developmental skills in reading and math) indicated no significant difference between the two groups, except in the area of reading at the second grade level, with the difference in favor of the control group.

FOREWORD

This end-of-year evaluation report describes the effect of the project, "A School and Home-Based Bilingual Education Model," during 1977-78. This evaluation study was conducted by an independent consultant and service organization with its direction primarily through various faculty members of the College of Education, Texas Tech University. This report is submitted in accordance with the approved Evaluation Proposal dated August 12, 1977 and the Educational Evaluation Agreement dated August 18, 1977.

The evaluation team recognizes and hereby expresses appreciation to the project director, coordinator, faculty, and staff of the program for their excellent cooperation during the evaluation process.

The invaluable assistance of the various professional and para-professional personnel on the evaluation team is also acknowledged and appreciated.



Billy E. Askins, Ed.D.
Evaluation Coordinator
June, 1978

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SECTION I

INTRODUCTION AND DESCRIPTION OF THE PROJECT

INTRODUCTION

This report describes the third-year external evaluation study of the project "A School and Home-Based Bilingual Education Model," during the 1977-78 school year. This project is a cooperative effort between the Clovis Municipal Schools (Clovis, New Mexico) and the Portales Municipal Schools (Portales, New Mexico) and is funded by the U.S. Office of Education (ESEA, Title VII).

Description of the Project

The project, "A School and Home-Based Bilingual Education Model," is a demonstration model for bilingual early childhood education. The project started initially at the nursery school level and was later expanded upward. Beginning with the 1977-78 school year, the nursery school was dropped; thus, the project consisted of grades K-4. The project operates at two sites: La Casita Elementary School in Clovis and Lindsey Elementary School in Portales. At each site, there are two programs, the Kindergarten Program and the Grades 1-4 Program.

Both of the elementary schools are located in the section of town where there is a high concentration of Mexican American Children.

Purpose and Goal of the Project

The purpose of this project is to develop for the two school districts, over a five-year period, a model bilingual program from nursery school (beginning at age 3) through grade six. The project will implement innovative and tested instructional bilingual-bicultural materials so as to better reach children with limited English speaking ability from low income families.

The major goal of this project is to provide early childhood bilingual education intervention which will facilitate the learning of two languages (English and Spanish) simultaneously in an effort to effectively develop the child's cognitive, affective, and psychomotor skills. To accomplish this goal, specific objectives were developed for each program of the project.

Program Objectives.

The major performance objectives of the two programs were as follows:

Kindergarten Program

At the end of the academic year, the students will:

1. Indicate a significant gain in language development in English.

Evidence of achievement will be determined from gain scores of the Peabody Picture Vocabulary Test.

2. Indicate a significant gain in language development in Spanish. Evidence of achievement will be determined from gain scores of the Test for Auditory Comprehension of Language - Spanish.
3. Indicate a significant gain in school readiness in such areas to include: listening ability; visual acuity; and recognition of similarities, differences, and numerical analogies. Evidence of achievement will be determined from gain scores of the Readiness Test for Disadvantaged Preschool Children.
4. Indicate a significant gain in general basic skills. Evidence of achievement will be determined from gain scores of the Boehm Test of Basic Concepts.

Grades 1-4 Program.

At the end of the academic year, the students will:

1. Indicate a significant gain in language development in English. Evidence of achievement will be determined from gain scores of the Peabody Picture Vocabulary Test.
2. Indicate a significant gain in language development in Spanish. For grades 1-2, evidence of achievement will be determined from gain scores of the Test for Auditory Comprehension of Language - Spanish. For grades 3-4, evidence of achievement will be determined from gain scores of the Spanish version of the Peabody Picture Vocabulary Test.
3. Indicate a significant gain in developmental skills in reading. Evidence of achievement will be determined from gain scores of the Metropolitan Achievement Test (reading sub-test).
4. Indicate a significant gain in developmental skills in math. Evidence of achievement will be determined from gain scores of the Metropolitan Achievement Test (math sub-test).

SECTION II

EVALUATION

The External Evaluation

In addition to the on-going internal program evaluation procedures, an external evaluation study was conducted by an outside independent evaluator. This external evaluation study was conducted by B. E. Askins and Associates, Lubbock, Texas. This is an independent consultant and service organization with its direction primarily through various faculty members of the College of Education, Texas Tech University. Members of the evaluation team consisted of professional people with various specializations including: early childhood and elementary education; bilingual education; and research and evaluation. Names of the members of the evaluation team are listed on the cover of this report.

Purpose of the External Evaluation Study

The major purpose of this evaluation study was to collect and provide information necessary for decision-making relative to student and program progress. Such information was provided to the project director, local education agencies (Clovis and Portales), and to the funding agency.

Major elements of this external evaluation consisted of:

1. Providing a variety of professional personnel appropriate to the evaluation of the project. This included personnel to score all pre and posttests, (K-G4), conduct in-service training for teachers who administered the various instruments (K-G4), site-visits, analysis, and report writing.
2. Providing the project director with baseline data which could be used in program planning and operation. These data were mainly the results from the pretesting phase. The pretests, as well as the posttests, scores for each student were provided to the project director.
3. Preparing reports.
 - a. An interim report was submitted to the project director on November 30, 1977.
 - b. The Final Evaluation Report was submitted to the project director on June 30, 1978.
4. Disseminating evaluation reports and other information pertaining to the operation of the project.

Evaluation Design

The purpose of this evaluation design was to measure the impact of the project as concerns student achievement (primarily language development and academic readiness/skills) in the two programs (Kindergarten, and Grades 1-4). This design, based upon the major program objectives, provided for evaluating separately each of the two programs of the project.

The evaluation of each of these programs is described in the following paragraphs in terms of: Evaluation Model; Objectives and Test Instruments; Procedures and Time-Schedule for Collecting Data; and Analytical Procedures.

Kindergarten Program

Evaluation Model. This program was evaluated using a special regression model with a one group pretest-posttest design. The use of this type of model was necessary because of the non-availability of a comparison group.

The special regression model will determine the relationship of selected program and personal variables on the progress of the participants. The model will provide an estimate concerning how the students would have performed if they had not received the treatment. The model can be depicted as:

$$Y^1 = X_1 + X_2 \dots X_n$$

Where:

Y^1 = measure of program objectives

$X_1 \dots n$ = program and personal variables

The program is designed for 5-year-old children and employs bilingual instructional activities. The program operates at Clovis and Portales and serves approximately 30 students at each site.

Objectives and Test Instruments. A summary description of the program objectives and list of instruments selected to measure the objectives are as follows:

<u>Objectives</u>	<u>Instruments</u>
Language development in English	Peabody Picture Vocabulary Test (Dunn)
Language development in Spanish	Test for Auditory Comprehension of Language - Spanish (Carrow)
School Readiness	Readiness Test for Disadvantaged Preschool Children (Walker)
Basic Skills	Boehm Test

A description of the test is included in Appendix A.

The rationale for selecting the forementioned instruments was: (1) Each instrument has been previously used and determined by the project director, school principals, and evaluation team to be appropriate to measure the program objectives; and (2) Each test is standardized with appropriate normative data.

Procedures and Time-Schedule for Collecting Data. The participants were tested before and after the treatment (bilingual instructional activities) and statistical significance was determined on the difference.

A special regression model was employed to determine the relationship of selected program and personal variables on the progress of the participants. This model can be depicted as:

$$Y^1 = X_1 + X_2 \dots X_n$$

Where:

Y^1 = measure of program objectives
 $X_1 \dots n$ = program and personal variables

The dependent variables in this model were measures of the program objective (posttest) and the independent variables were selected program and personal variables.

The pretests were administered in September, 1977 and posttests were administered in May, 1978.

The pre and posttests were administered by designated teachers of the Clovis and Portales school districts. An in-service training session on the administering of these tests was conducted by the evaluator on August 19, 1977. The pre and posttests were scored by members of the evaluation team.

Procurement of all test instruments and answer forms were the responsibility of the evaluator.

Analytical Procedure. Program impact was determined by a comparison of pre and posttest performance and the relationship between program and personal variables and posttest performance. This will include an estimate concerning how the students would have performed if they had not received the treatment. Means, standard deviations, and t values were reported. Also, a matrix including correlations, intercorrelations, and multiple R's was presented.

Grades 1-4 Program

Evaluation Model. This program was evaluated using a two group (treatment and control) pretest-posttest covariance model. The treatment

group was the students taught with the bilingual approach. The comparison or control group was students not receiving the bilingual approach and was selected on the basis of compatability with student composition of the treatment group. This model can be depicted as:

$$\text{Treatment Group} = T_1 \times T_2$$

$$\text{Comparison Group} = T_1 \quad T_2$$

Where: T_1 = pretest

T_2 = posttest

X = bilingual instructional activities

The two groups (by each grade level) were equated using the statistical technique of analysis of covariance, and the covariates were the pretest scores.

This program consisted of employing the bilingual approach to teaching selected students assigned to particular sections in grades 1-4 at both Clovis and Portales. The number of participants in this program was estimated to be 25 at each grade level (1-4) at each of the two sites (Clovis and Portales).

Objectives and Test Instruments. A summary description of the program objectives and list of instruments selected to measure the objectives are as follows:

<u>Objectives</u>	<u>Instrument</u>
Language development in English	Peabody Picture Vocabulary Test (Dunn)
Language development in Spanish	Test for Auditory Comprehension of Language - Spanish (Carrow)
Developmental skills in reading	Metropolitan Achievement Test (reading sub-test)
Developmental skills in math	Metropolitan Achievement Test (math sub-test)

A description of the tests is included in Appendix A.

The rationale for selecting the forementioned instruments was: (1) Each instrument has been previously used or researched and determined by the project director, school principal, and evaluation team to be appropriate to measure the program objectives as pertains to grades 1-4, and (2) Each test is a standardized instrument with appropriate normative data.

Procedures and Time-Schedule for Collecting Data. Pretests were administered to students both in the treatment group and comparison group during September, 1977, and the posttests were administered to the same students in May, 1978.

The pre and posttests were administered by designated teachers of the Clovis and Portales school districts. An in-service training session on the administering of these tests was conducted by the evaluator on August 19, 1977.

Scoring of all pre and posttests was performed by the evaluation team.

Procurement of all test instruments and answer forms was the responsibility of the evaluator.

Analytical Procedure. Program impact was determined by a comparison between the treatment group and the comparison group on the measured variables controlling for pretest performance. Means, standard deviation, and summary analysis of covariance table were presented.

Other Evaluation Data

On-Going Evaluation. In addition to the above-stated measures (pre and posttest), there were on-going subjective evaluation procedures. This consisted mainly of site-visits by the evaluation team so as to observe and become familiar with the daily operation of the project. Such observation was necessary so as to become familiar with the setting of the various measures.

Variables Which Could Affect Student/Project Outcomes. There could be some variables operating in the project during the 1977-78 school year which possibly could affect the student/project outcomes. Such variables are: age; socio-economic background of the students; testing procedures; year in program; and learning environment in the home.

The external evaluator recognized the possibility of such variables and took such into consideration during the evaluation process.

SECTION III

EVALUATION DATA

Summary of the Evaluation Design

The external evaluation was designed to measure the impact of the project as concerns student achievement (primarily, language development and academic readiness/skills) in the two programs (Kindergarten and Grades 1-4). This design, based upon the major program objectives, provided for evaluating separately each of the two programs. The evaluation design for the Kindergarten Program consisted of pre and post-test one-group design plus a regression analysis of selected personal variables and posttest performance. The evaluation design for the Grades 1-4 Program was a two-group analysis of covariance design using pretest performance as the covariate.

The Kindergarten Program

Data to evaluate this program were collected according to the major program objectives using standardized instruments for measurement. A Summary of the objectives/abilities and instruments used are listed in Section I.

Number of Students Tested

There were 49 students pretested (100%) and 40 students posttested (82%) at both sites. There were 40 students available for both pre and posttesting. All of the tests were administered by the teachers.

Analysis

Data for the Kindergarten Program were collected from two procedures. First, a pre and posttest analysis was conducted on four measures: Peabody Picture Vocabulary Test - English (PPVT); Test for Auditory Comprehension of Language - Spanish (TACL); the Readiness Test for Disadvantaged Preschool Children (RTDC); and the Boehm Test. Second, a regression analysis was conducted with posttest scores of each measure dependent variables and pretest scores and selected personal variables as independent variables.

Table 1 presents the results of the pre and posttest analysis.

TABLE I
PERFORMANCE OF STUDENTS IN THE
BILINGUAL KINDERGARTEN PROGRAM (N=40)

TEST		MEANS	GAIN	s	t
PPVT (English)	Pre	46.95		8.46	
	Post	50.00	3.05	6.47	1.09
TACL (Spanish)	Pre	52.55		16.78	
	Post	52.70	.15	26.44	-.04
RTDC (Readiness)	Pre	29.39		7.19	
	Post	38.56	9.17	11.44	-4.18*
BOEHM	Pre	28.65		5.32	
	Post	40.70	12.05	4.11	5.01*

* $p < .05$

Table II presents the results of the regression analysis. Pretest performance, sex, family income, and mothers education were correlated with each posttest in an effort to determine the relationship of these variables to performance. Due to small percentage of variance explained by the variables used in the regression analysis, a comparison between predicted performance and actual performance was not made.

TABLE II
CORRELATIONS BETWEEN POSTTEST PERFORMANCE AND
SELECTED VARIABLES IN THE KINDERGARTEN PROGRAM

POST TEST	PRE TEST	SEX	FAMILY INCOME	MOTHER'S EDUCATION	R	R ²
RTDC	.31	.06	-.20	.21	.26	.07
PPVT	.24	.14	.14	.18	.31	.10
TACL	.16	.03	.21	.23	.41	.17

Findings

Students in the Bilingual Kindergarten Program made a significant gain in school readiness and basic skills, and made slight gains in Spanish and English. The later two measures were not statistically significant.

The regression analysis failed to yield any substantial predictions of performance from the independent variables used in the analysis.

The Grades 1-4 Program

Data to evaluate this program were collected according to the major program objectives using standardized instruments for measurement. A summary of the objectives/abilities and instruments used are listed in Section I.

Number of Students Tested

For G1 at both sites, there were 94 students pretested and 56 students posttested. A total of 56 students were available for both the pre and posttesting.

For G2 at both sites, there were 81 students pretested and 51 students posttested. A total of 51 students were available for both the pre and posttesting.

For G3 at both sites, there were 84 students pretested and 53 students posttested. A total of 51 students were available for both the pre and posttesting.

For G4 at both sites, there were 92 students pretested and 42 students posttested. A total of 42 students were available for both the pre and posttesting.

All of the tests were administered by the teachers.

Analysis

For the G1-4 program, the evaluation design was a two group (experimental and control) pretest - posttest covariate design using pretest as the covariate. Measures were taken on language development in English (PPVT), language development in Spanish (TACL), PPVT - (Spanish), developmental skills in reading (MAT - Reading), and developmental skills in math (MAT - Math). Table III presents the means and standard deviations for each group and Table IV presents the analysis summary.

Findings

From the analysis of the evaluation data for the G1-4 program, the data yielded the following:

1. When controlling for pretest performance, no significant differences were found between the experimental (bilingual) and control groups for all measures and all grade levels with the exception of second grade reading. The results of the covariance analysis are presented in Table IV.
2. Pre and posttest means and mean gains for each grade level and each measure are presented in Table III. It can be noted from these data that considerable fluxuation exists with regard to experimental and control group performance. In most instances, the difference between the two groups are extremely small. It can also be noted that a considerable decrease occurred from pretest to posttest in Spanish. This may be due, in part, to a testing error which may have occurred during pretesting.

TABLE III

MEANS AND STANDARD DEVIATIONS OF EXPERIMENTAL AND CONTROL GROUPS (G1-4) IN AREAS OF SPANISH, ENGLISH, READING, AND MATH

VARIABLES	GRADE	GROUP	MEANS	MEAN GAIN
SPANISH (TACL)	1	E	PRE 65.41 POST 72.30	6.89
		C	PRE 58.87 POST 32.46	-26.41
	2	E	PRE 72.20 POST 81.40	9.20
		C	PRE 63.00 POST 57.73	-5.27
SPANISH (PPVT)	3	E	PRE 61.00 POST 43.00	-18.00
		C	PRE 69.03 POST 36.41	-32.62
	4	E	PRE 73.23 POST 55.40	-17.83
		C	PRE 68.31 POST 32.46	-35.85

TABLE III (continued)

MEANS AND STANDARD DEVIATIONS OF EXPERIMENTAL AND CONTROL GROUPS
(G1-4) IN AREAS OF SPANISH, ENGLISH, READING, AND MATH

VARIABLES	GRADE	GROUP	MEANS		MEAN GAIN
ENGLISH (PPVT)	1	E	PRE	50.30	6.23
			POST	56.53	
		C	PRE	55.31	.57
			POST	55.88	
	2	E	PRE	57.49	4.51
			POST	62.00	
		C	PRE	57.17	2.41
			POST	59.58	
READING (MAT)	3	E	PRE	61.42	2.23
			POST	63.65	
		C	PRE	61.18	6.74
			POST	67.92	
	4	E	PRE	61.05	7.75
			POST	68.80	
		C	PRE	63.47	3.20
			POST	66.67	
READING (MAT)	1	E	PRE	12.52	4.69
			POST	17.21	
		C	PRE	0	21.16
			POST	21.16	
	2	E	PRE	21.55	14.63
			POST	36.18	
		C	PRE	19.72	28.60
			POST	48.32	
READING (MAT)	3	E	PRE	23.40	7.66
			POST	31.06	
		C	PRE	23.40	9.75
			POST	33.15	
	4	E	PRE	28.40	11.43
			POST	39.83	
		C	PRE	30.95	6.91
			POST	37.86	

TABLE III (continued)

MEANS AND STANDARD DEVIATIONS OF EXPERIMENTAL AND CONTROL GROUPS
(G1-4) IN AREAS OF SPANISH, ENGLISH, READING, AND MATH

VARIABLES	GRADE	GROUP	MEANS		MEAN GAIN
MATH (MAT)	1	E	PRE	7.74	16.46
			POST	24.20	
		C	PRE	15.56	14.24
			POST	29.80	
	2	E	PRE	30.68	19.43
			POST	50.11	
		C	PRE	33.00	24.06
			POST	57.06	
	3	E	PRE	33.08	24.01
			POST	57.09	
		C	PRE	40.55	15.48
			POST	56.03	
	4	E	PRE	39.65	16.49
			POST	56.14	
		C	PRE	46.74	6.44
			POST	53.18	

TABLE IV

SUMMARY OF ANALYSIS OF COVARIANCE COMPARING BILINGUAL AND CONTROL GROUP (G1-4) WITH PRETEST SCORES AS THE COVARIATE

VARIABLES	GRADE LEVEL	F	P
SPANISH	1	1.01	N.S.
	2	.02	N.S.
	3	.76	N.S.
	4	.88	N.S.
ENGLISH	1	.01	N.S.
	2	.82	N.S.
	3	.03	N.S.
	4	.36	N.S.
READING	1	1.01	N.S.
	2	6.84	.01
	3	3.33	N.S.
	4	2.63	N.S.
MATH	1	1.50	N.S.
	2	1.67	N.S.
	3	2.22	N.S.
	4	1.88	N.S.

Summary and Findings

A summary of findings, in terms of the evaluation objectives, are as follows:

Kindergarten Program

1. No significant gain was made in language development in English.
2. No significant gain was made in language development in Spanish.
3. A significant gain was made in school readiness.
4. A significant gain was made in basic skills.

G1-4 Program

1. No significant difference was found between the bilingual and control groups on language development in English at any grade level.
2. No significant difference was found between the bilingual and control groups on language development in Spanish at any grade level.
3. No significant difference was found between the bilingual and control groups on developmental skills in reading with the exception of the second grade.
4. No significant difference was found between the bilingual and control groups on developmental skills in math at any grade level.

SECTION IV

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The project, A School and Home-Based Bilingual Education Model (K-4), is a demonstration model for bilingual early childhood education. The project will be expanded one grade level each year to the sixth grade. The project is a cooperative effort among the Clovis, Municipal Schools, Portales Municipal Schools, and the U.S. Office of Education.

The major purpose of the external evaluation study during 1977-78 was to measure the impact of the project as concerns student achievement (language development and academic reading/skills) in the two programs (Kindergarten and G1-4). The evaluation design, based upon the program objectives, provided for evaluating separately each of the two programs.

The evaluation design of the Kindergarten Program consisted of a pre and posttest one group design and a special regression model. The evaluation design for the Grades 1-4 Program was a two group (treatment and control) pretest and posttest covariance model.

Findings

A summary of the findings of this study, by program and objective, is presented in the following paragraphs:

Kindergarten Program

1. No significant gain was made in language development in English.
2. No significant gain was made in language development in Spanish.
3. A significant gain was made in school readiness.
4. A significant gain was made in basic skills.

G1-4 Program

1. No significant difference was found between the bilingual and control groups in language development in English at any grade level.
2. No significant difference was found between the bilingual and control groups in language development in Spanish at any grade level.
3. No significant difference was found between the bilingual and control groups in developmental skills in reading with the exception of the second grade, and this difference was in favor of the control group.

4. No significant difference was found between the bilingual and control groups in developmental skills in math at any grade level.

Conclusions

Based upon the findings of this study, the major conclusions were:

1. As concerns the Kindergarten Program, the objectives pertaining to school readiness and basic skills were achieved; however, the objectives pertaining to language development in English and Spanish were not achieved.

2. In the Gi-4 Program where the experimental group (bilingual) was compared with the control group, the only significant difference found between the two groups was at the second grade level in the area of reading with the difference in favor of the control group; therefore, it was concluded that none of the instructional objectives were achieved.

Recommendations

Based upon the findings and conclusions of this study, the following suggestions or recommendations were made:

1. That additional training be provided to the teachers and aides who administer the pre and posttests as part of the evaluation process. Action in this area is strongly urged as a result of some serious testing errors noted, especially during the pretesting phase.

2. That the external evaluation study be expanded to include process as well as product evaluation.

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APPENDIX A

DESCRIPTION OF INSTRUMENTS

A brief non-technical description of each of the test instruments is listed in the following paragraphs. Personnel interested in more detail concerning the test are invited to consult technical data provided by the publishers of the test or refer to the Mental Measurements Yearbook, Buros, editor.

Language Development

English

The Peabody Picture Vocabulary Test (Dunn) is designed to provide an estimate of a subject's "verbal intelligence" through measuring his hearing vocabulary. The test also has wide utility as a clinical tool. Besides being effective with average subjects, it has special value with certain other groups. Since subjects are not required to read and the responses can be non-oral, the test is especially fair to non-readers and remedial reading cases. With the drawings free of fine detail and figure-ground problems, the test is apparently appropriate for at least some perceptually impaired persons. According to the Test Manual, the scale is appropriate for subjects 2½ - 18 years who are able to hear words, see the drawings, and has the facility to indicate "yes" and "no" in a manner which communicates.

This standardized test is published by American Guidance Services, Inc., Circle Pines, Minnesota.

Spanish

The Test for Auditory Comprehension of Language (Carrow) measures the child's understanding of the Spanish language structure. The test is composed of 101 plates of pictorial referents. The child responds to each of the examiner's oral stimuli by pointing to one of three line drawings. Responses are recorded on a separate scoring/analysis form. The test is designed for individual administration by speech and testing specialists. Test results can also be used to diagnose the language competence of bilingual and mentally retarded children as well as those with hearing, articulation, or language disorders.

This standardized test is published by Learning Concepts, Inc., Austin, Texas.

School Readiness

The Readiness Test for Disadvantaged Pre-School Children (Walker) was adapted from the final report of a project conducted by Dr. Wanda Walker,

Northwest Missouri State College, and supported by the Office of Education. The test consists of multiple-choice items based on pictures and symbols which do not require reading ability and are designed to test a child's listening ability; visual ability; and his recognition of similarities, differences, numerical analogies, and missing parts.

This standardized test is available from ERIC Reproduction Service (ED 047 168), Bethesda, Maryland.

Self Concept and Personality Development

The Developmental Profiles (Bessell and Palomares) is a subjective evaluation of children's behavior under a variety of circumstances. These rating scales are prepared periodically jointly by two teachers. The teachers make ratings on a printed form according to six affective areas; awareness of self; self-confidence; interpersonal comprehension; sensitivity to others; effectiveness; and tolerance. Because of the inherently subjective nature of these profiles, there is no objective scale of accomplishment or standard in terms of age-achievement scores. The profiles can provide a source of insight and understanding of emotional and personality development.

This instrument is published by the Human Development Training Institute, El Cajon, California.

Basic Skills/Student Achievement

Kindergarten

The Boehm Test of Basic Concepts (1969 edition) is designed for the kindergarten level and provides a measure of general basic skills. This standardized test is published by the Psychological Corporation, New York, New York.

Grades 1-4

The Metropolitan Achievement Tests (1970 edition) is designed for the primary and elementary levels and measure student achievement in 7 areas: reading comprehension; arithmetic skills; vocabulary; spelling; language skills; language study skills; and social studies information. This evaluation study used only the reading comprehension and arithmetic skills sub-tests for grades 1.5-4.9. The normative data points are mid-October and mid-April. Types of scores which can be obtained include: raw scores; grade-equivalent scores; standardized scores; percentiles; and stanines.

This standardized test is published by Harcourt Brace Jovanovich, Inc. 757 Third Avenue, New York, New York, 10017.